## Richard.W.Capps@jpl, 10:45 AM 5/4/98 -, Abstract- one more time

To: Richard.W.Capps@jpl.nasa.gov

From: Chris Lindensmith <chrisl@squid.jpl.nasa.gov>

Subject: Abstract- one more time

Cc: Bcc:

I noticed this morning that I screwed up the spelling of Mauro Prina's name in the abstract when I resent it. Here it is for a third time, with all the names spelled correctly.

Chris

## Title:

Progress in Vibration-Free Sorption Cryocoolers for the Planck Mission.

## Authors:

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## Abstract:

We are developing vibration-free 20 K sorption cryocoolers for the Planck Surveyor mission to measure the cosmic microwave background radiation. The coolers are composed of a set of compressors, which use a metal-hydride sorbent material to chemisorb the hydrogen refrigerant, and a Joule-Thompson expander at the cold-head. A set of five compressors, operated in a fixed sequence, will enable the coolers to provide continuous 20 K and 18 K cooling for the science instruments and next-stage coolers. We will report on our progress to date in the development of these cryocoolers, as well as our plans for the development of future sorption cryocoolers for lower temperature operation.